ernment relations specialist at the PMA.

James Morrison of the FDA tells a somewhat different story. "The Lilly study is so flawed that it is not indicative of anything. The FDA's answer is to point out the flaws." According to Morrison, some major flaws are that the Lilly study includes recalls that have nothing to do with the quality of drug products, such as drugs recalled because they were marketed without FDA approval, and that it makes no attempt to compare the quality of competing drugs. "What you really want to know is what is the quality of Librium, for example, as compared to the generics that can be substituted for it. But the Lilly study just throws all the drugs into a big pot," he says. Lilly responds by saying it never intended to compare the quality of supposedly equivalent drugs. Its aim was to compare the records of different companies.

Lilly disagrees with all of the FDA's objections and insists its conclusions are valid. The FDA, spurred by the Lilly study, is conducting a study of its own, designed to compare the quality of supposedly equivalent drugs. The FDA is still analyzing its data, Morrison says, but so far there appear to be no striking differences between research-intensive and other firms.

J. Richard Crout, director of the Bureau of Drugs, comments, "The small drug industry is tagged by some firms that have had a disproportionate amount of regulatory incidents in the past decade. The large drug industry has focused on those pockets of vulnerability and has made more of them than is correct." He points out that the large firms keep referring to a few occasions when generic drugs were not equivalent to the brand name drugs for which they were substituted. The problem, Crout says, is being represented as "much more widespread and much more severe than it really is."

Crout believes that the real issue bothering the large companies is not drug quality but profits. The PMA agrees to the extent of saying that economics is its strong point in arguing against generic substitution. Although the large drug industry still is highly profitable, its profits have been steadily decreasing over the past decade. The companies say that even with the protection of the patent laws, they can no longer make enough money on their drugs to support research and development.

The PMA says that there are two major reasons for this decline in profits. First, more and more drug patents are expiring, but new drugs are not being discovered as quickly as they were 10 or 20 years ago. So the companies have proportionately fewer patented drugs.

The second reason is that even patented drugs no longer have anywhere near 17 years of patent protection. This is because FDA regulations have slowed the process of getting approval to market a drug to the point where it now takes an average of 8 years from the time a patent is approved to the time a drug is marketed. (In contrast, this period is only 18 months in the electronics industry, according to PMA economist Samuel Mitchell.) As recently as 1960, it took no more than a year or so to get FDA approval to market a new drug. As a result, the effective patent life of drugs has declined from nearly 17 years in the 1950's to 9 years today.

Mitchell sees the continuing decline in drug company profits as ruining the firms' research and development programs. The PMA, he says, would like to see the FDA prune its regulations that delay the marketing of new drugs. Also, it would like the patent laws changed for the drug industry so that the period of patent protection starts when a drug is approved for marketing. And the PMA is against generic substitution because it further lowers the companies' profits. "The key issue from the consumer's viewpoint is, What is more in the public interest: cheaper drugs now or fewer drugs in the future?" Mitchell asks.

Morrison argues that this is not a fair question because drug companies can always raise their prices for patented drugs to make up for the money they lose on drugs whose patents have expired. Mitchell responds by saying that drug companies cannot raise prices without losing money, that their patented drugs are carefully and optimally priced. The drug market is highly competitive, even for patented drugs, he says. If, for example, a patented antihypertension drug or a patented antibiotic is priced too high, there are plenty of alternatives that can be bought instead. William Comanor, director of the Bureau of Economics at the FTC also says that patented drugs are already priced as high as they can be.

The large drug firms have sympathy from Crout for their economic problems. But Crout is disturbed by the companies' focusing on the quality of generics rather than the economic issues in trying to maintain their profits. He thinks the firms are fighting a losing battle when they fight generic substitution. "Ultimately," says Crout, "I don't think the large drug industry will be convincing. The hollowness of its approach will be revealed."—GINA BARI KOLATA

Macht durch Weisheit

"Americans' incompetence in foreign languages is nothing short of scandalous, and it is becoming worse," says a report issued by the President's Commission on Foreign Language and International Studies. "Nothing less is at issue than the nation's security," contends the commission, which links America's weakening position in trade and international relations to "our gross national inadequacy" in foreign language skills and knowledge about foreign cultures.

The report, entitled "Strength through wisdom," indicates that Americans' sophistication about matters foreign has been in a steep decline for more than a decade. Foreign languages have practically disappeared from primary and secondary schools and few colleges now require language facility for entrance or obtaining degrees. Money, both public and private, for foreign studies has dried up: for example, the Ford Foundation support for training and research has dropped from $27 million a year in the 1960's to $3 million to $4 million a year. The State Department is only in compliance two-thirds of the time when it comes to filling Foreign Service positions requiring foreign language competence, and compliance is closer to one-third in filling positions requiring difficult languages such as Arabic. The percentage of undergraduates enrolled in international studies programs has dropped by one-half in the past decade, and it is rare for graduate students in fields outside the humanities or social sciences to get international training—this despite the fact that demand for people with multiple expertise, such as economics and an area specialty, is on the rise. Exchange programs are on the wane: the Fulbright program budget has dropped by 55 percent since 1967. U.S. research facilities abroad are clinging to their lives by a thread. And so on.

The commission has made a multitude of recommendations which would add up to increased federal expenditures of about $180 million a year. It calls for the establishment of regional centers and summer institutes for foreign language instruction as well as 20 new international high schools. It wants reinstatement of for-

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eign language requirements at all levels of schooling. All students, it says, should "master at least one foreign language, and, ideally . . . acquire a second."

In higher education, the commission proposes the establishment of 200 new undergraduate international studies programs and of new national and regional centers for advanced international studies. Vastly expanded programs of graduate fellowships and international educational exchange are called for. The commission wants various new councils and committees to be established to guide and monitor the new effort, including a permanent National Commission on Foreign Language and International Studies.

The commission, formed in September 1978, was chaired by James A. Perkins, former president of Cornell University.

It is too early to say whether the recommendations are striking a responsive chord in the country. Chairman Perkins, however, suggests that events in Iran may furnish a significant jolt to the nation's complacency, and says there are signs that the trend of the past decade is reversing. Some states, for example, are talking about reestablishing high school language requirements, and the new focus on preserving the languages and cultures of America's ethnic groups is bound to contribute toward a more cosmopolitan emphasis in education.

In Congress, at least one member is working on legislation related to the commission recommendations. Representative Paul Simon (D-Ill.), a commission member, plans a bill to furnish capitation grants to encourage student enrollment in foreign languages in high schools and colleges.

Centenarians and Representatives

If you want to live to be 100, there is simply no substitute for good genes, or so it appeared at an unusual hearing held by Claude Pepper (D-Fla.), chairman of the House Select Committee on Aging.

Pepper, who at 79 is the oldest person in the House of Representatives, has as his first priority the elimination of any mandatory retirement age. To that end he rounded up eight individuals, ranging in age from 100 to 112, to come to Congress and testify as to their secrets of longevity.

Pepper pointed out that only a decade ago, centenarians in the United States numbered 3200. Now there are 13,000. And that is only the statistical tip of the iceberg, as the over-85-year-olds are the fastest growing segment of the population today.

It used to be a "biological freak" for a person to achieve 100, observed Pepper, but now "that concept of a maximum life-span may become obsolete for the first time in history."

Pepper's most helpful witness was probably 103-year-old Harry Lieberman of Great Neck, New York. Lieberman, the most voluble of the group, is a retired confectioner who took up painting at the age of 80 and is now a money-making artist. Lieberman retired for 6 years, which he described as "the worst 6 years of my life." Said he, "There's a Jewish saying 'don't ask the doctor, ask the sick man.' I was the sick man for 6 years. I am the doctor now."

All the centenarians confirmed that work and activity were crucial for their well-being. But as Pepper went down the line asking them questions about diet, drinking, and life habits, it became clear that what they had most in common was genes: Five of the witnesses had close relatives who had lived beyond the 100 mark; the parents of two others had died prematurely. Only one of the witnesses, physician W. L. Pannell, had paid any attention to his diet. He had given up fats and sweets in his youth after a bout with typhoid fever.

Complementing the testimony of the elders was that of two officials from the National Institute of Aging and Belle Boone Beard, a sociologist who has files on 8500 centenarians. Beard claimed that "There is practically nothing you cannot do at 100 if you keep on doing it when younger." The 100-year-olds show that "one is never too old to live alone, to dance, to hold public office, to handle their own finances, to drive an automobile or even get married."

Jacob Brody, epidemiology chief at NIA, was not quite so sanguine about the correlation of activity with longevity. "These are the peppies," he told *Science* about the witnesses at the hearings. He pointed out that there are plenty of lonely old ladies sitting around doing nothing in nursing homes, but "depressed old ladies don't die either." If the witnesses, some of whom dozed through most of the proceedings and all of whom required considerable assistance from relatives and attendants in addressing themselves to questions, were the "peppies" of their generation, it seems the testimony of Beard and NIA deputy Robert L. Ringler was on the optimistic side. Ringler said that the intrinsic human life-span was now thought to be on the order of 110 to 120 years.

Although the members of Pepper's committee did not happen on any new clues about longevity, Beard came up with one interesting item: In surveying the eating habits of centenarians, one food stood out: onions. After a 3-month study comparing the health of people who were fed a lot of onions and of those who were not, she said the onion-eaters showed significantly better health, a fact that is attributed to onion's anticoagulant properties.

Specimen Bank Set Up

A pilot environmental specimen bank to supply baseline data for pollution monitoring was dedicated at the National Bureau of Standards on 15 November. The bank, a joint project of NBS and the Environmental Protection Agency, is a 5-year project launched after 5 years of research and planning in cooperation with the West Germans, who are planning a parallel endeavor.

The $1.5-million facility is supposed to eventually hold 30,000 samples of four types. During the first year 300 liver samples from cadavers will be collected and stored at −190°C in liquid nitrogen vapor. Over the following 3 years samples from marine bivalves, grains, and atmospheric particles will be added. The purpose of the bank is to monitor pollution trends to gauge the effects of cleanup efforts and alert officials to potential new hazards. The program will also establish uniform techniques for sample collection, preparation, storage, and analysis. If all goes well, the EPA plans eventually to transfer the samples to an expanded permanent National Environmental Specimen Bank.

Constance Holden